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Influence of drugs on mild cognitive impairment in Parkinson's disease: Evidence from the PACOS Study

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Background: Polytherapy and the anticholinergic activity of several drugs negatively influence cognition in the elderly. However, little is known on the effect on Mild Cognitive Impairment (MCI) in Parkinson's disease (PD).

Methods: Patients with PD belonging to the baseline PACOS cohort with full pharmacological data, have been included in this study. MCI diagnosis was made according to the MDS level II criteria. Polytherapy was defined as patients assuming ≥6 drugs. Anticholinergic burden has been calculated using the Anticholinergic Drug Scale (ADS). Molecules have been classified according to the ATC classification. Association with MCI has been assessed with a multivariate logistic regression analysis considering MCI as the dependent variable.

Results: Pharmacological data was available for 238 patients (mean age 64.7±9.7). One hundred (42.0%) were diagnosed as MCI. In the full multivariate model (correcting for age, sex, disease duration, education, UPDRS-ME) no association was found with either polytherapy or the ADS. Concerning drug classes, anti-hypertensive medications increased the risk of PD-MCI (OR 2.03;95%CI 1.06-3.91; p=0.032) while gastroprotective agents had a protective effect (OR 0.51; 95%CI 0.27-0.98; p=0.046).

Conclusions: The magnitude of polytherapy and anticholinergic drugs burden does not appear to modulate MCI risk in PD, probably due to cautious prescription patterns. The protective effect of gastroprotective agents needs further confirmations.